SHALVAREV, K.

2298. Chromatographic detection of silver, lead and mercury(I) cations. K. Shalvarev. *Tekhnika (Bulg.)*, 1956, 5 (2), 37–38; *Ref. Zhur., Khim.*, 1956, Abstr. No. 75,261.—The chromatography is carried out on a silica-gel column (length 10 cm, internal diam. 4 mm, particle size 0·09 mm). Three drops of a soln. of a mixture of Ag^+, Pb^{2+} and Hg^{2+} (0·01 *N*, pH 1) are passed through the column, followed by three drops of 0·01 *N* KI soln. There is formed a pale-yellow zone of AgI, a yellow zone of PbI_2 and an orange-red zone of HgI_2.

C. D. Kopkin

SOV/26-58-12-21/44

AUTHOR: Shalvarov, K.A.

TITLE: The Effect of the Wind-And-Sand Stream on Some Desert Plants (Vliyaniye vetropeschanogo potoka na nekotoryye rasteniya pustyni)

PERIODICAL: Priroda, 1958, Nr 12, pp 101 - 102 (USSR)

ABSTRACT: Continuous heavy wind and sand streams are characteristic for the city of Nebit-Dag between the Great and Small Balkhan in the Turkmen SSR. The effects upon plant life were studied by the city's Experimental Station for the Melioration of Agriculture and Forests. From 3 to 7 May 1954, a wind-and-sand stream swept the area with a speed of 16.3 m/sec in an east-north-east direction of 79°45' at a relative air humidity varying between 10 and 30 % and a mean temperature of 29°C. The local bristle-haired tamarisk and the Malura osage orange withstood the current best, the Canadian poplar better than the Bolean poplar; lilac and jasmine suffered most. The damages to trees and shrubs were due to parching and clogging of the stomata of the leaves, in addition to many kinds of fractures, torsions and lesions. Most damages occurred at a height of 5 to 15 cm of the current from the ground surface,

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The Effect of the Wind-And-Sand Stream on Some Desert Plants

while a height of 2 m above ground was least affected. Buildings or fences standing in the way of the wind-and-sand current provided good protection to the trees and shrubs behind. There are 2 photographs.

ASSOCIATION: Nebit-Dagskaya agrolesomeliorativnaya opytnaya stantsiya (The Nebit-Dag Experimental Station for the Melioration of Agriculture and Forests)

KOVA, O.K.

7 3

Solubility isotherms in the systems BeCl - $CaCl_2$-H_2O, $BeCl_2$-$SrCl_2$-H_2O and $BeCl_2$-$BaCl_2$-H_2O at 25°. V.P. Blidin, V.I. Gordienko, and O.K. Shaiverova. Zhur. Neorg. Khim. 1, 2623-6(1956).- The Soln. compns. (wt%) and their respective stables solid phases in the system $BeCl_2$-$CaCl_2$-H_2O are: BeCl 34.40, $CaCl_2$- 14.50, $BeCl_2 \cdot 4H_2O$+$CaCl_2 \cdot 4H_2O$; $BeCl_2$ 8.70, $CaCl_2$ 35.30, $CaCl_2$ $4H_2O$+$CaCl_2.6H_2O$. In the system $BeCl_2$-$SrCl_2$-H_2O, $SrCl_2 6H_2O$ is the stable solid phase even in solns. contg. 0.50% $SrCl_2$ + 27.95% $BeCl_2$. $BaCl_2 \cdot 2H_2O$ is a solid phase in the $BeCl_2$ - $BaCl_2$ - H_2O system at $BaCl_2$ concns. less than 0.32%. Double salts and solid solns. were not observed.

C.H. Fuchsman

GUREVICH, B.L.; SNEGIREVA, O.V.; SHALYA, A.A.

Gas potential of the Crimean Steppes and Sivash region. Gaz.prom. 4 no.8:3-8 Ag '59. (MIRA 12:11)
(Crimea--Gas, Natural--Geology)

SHALYA, A.A.; SAL'MAN, G.B.

Neocomian sediments in the southwestern Crimea and Crimean Mountains in the light of new data. Trudy VNIIGAZ no.7: 36-47 '59. (MIRA 13:5)
(Crimea--Sediments (Geology))

SHALYA, A.A.

Age and origin of tufaceous sandstones in the Lower Cretaceous of the Crimea. Trudy MGRI 39:28-34 '63. (MIRA 16:10)

[illegible], A. A.

[illegible] data on Late Triassic-Early Jurassic sediments (Aralsorskaya [illegible]) in the western and central regions of the Caspian syneclise. Dokl. AN SSSR 160 no.4:923-926 F '65. (MIRA 18:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut prirodnykh gazov. Submitted September 22, '64.

SHALYA, A.A.; LEONGARDT, N.I.

New data on the structure of Mesozoic sediments in the Volga-Ural interfluve. Trudy VNIIGAZ no. 25:52-82 '65. (MIRA 18:12)

SHALYA, A.D., elektromekhanik

Method for welding storage battery plates. Avtom., telem. i svyaz' 9 no.9:38 S '65. (MIRA 18:9)

1. Krasnolimanskaya distantsiya Donetskoy dorogi.

USSR/Medicine - Industry and Occupations, Hygiene

Sep 50

"Contamination by Mercury in Industrial Buildings Where Work Is Done with Mercuric Chloride," V. A. Khrustaleva, N. G. Shalya, Cen Sanitation and Hygiene Lab, Moscow Mun Pub Health Dept

"Gig i San" No 9, pp 22-25

Reports study on deg of contamination of the air by Hg and mercuric chloride vapors of installation producing battery electrolytes containing 0.2-0.4% mercuric chloride and describes methods used. Only Hg vapors were of appreciable concn. Suggests substitution of mercuric chloride by some other compd where possible, and periodical med examn of workers where metallic Hg vapors exist. Two tables of data.

PA 176T73

MOLOKANOV, K.P.; MOROZOV, A.L.; RASHEVSKAYA, A.M.; KHAPUKHINA, Ye.P.; ORLOVA, A.A.; STEPANOVA, V.I.; SHALYA, N.G.

Clinical, diagnostic, and therapeutic aspects of berylliosis. Sov.med. 25 no.4:22-30 Ap '61. (MIRA 14:6)

1. Iz Instituta gigiyeny truda i profzabolevaniy (dir. - deystvitel'nyy chlen AMN SSSR A.A.Letavet) AMN SSSR.
(BERYLLIUM—TOXICOLOGY)

2

CA

Mechanism of the slow oxidation of hydrocarbons. M. V. Polyakov and V. Y. Shalya (L. Y. Pisarzhevskii Inst. Phys. Chem., Acad. Sci. U.S.S.R., Moscow). *Doklady Akad. Nauk S.S.S.R.* 73, 979-82(1950).—The rate of slow oxidation of a butane-propane petroleum fraction, measured by both the rate of pressure increase and by the temp. rise in the center of the reaction tube, passes through a max. as a function of time. In a Mo glass tube 178 mm. long, inner diam. 43 mm., at 375°, the kinetic curves detd. by the pressure rise and by the temp. rise coincide very exactly; the rate, and the max. rate, decrease strongly with decreasing initial pressure, 200, 170, and 120 mm. At const. initial pressure, 200 mm. Hg, the rate and the max. rate increase with the initial temp. from 300 to 325°, where they are max., and decrease with further increasing temp. At 325°, a max. amt. of products of incomplete oxidation (aldehydes, ales., peroxides) is obtained. At higher temps. the amt. of products of incomplete oxidation decreases. These facts alone are in agreement with a homogeneous nature of the process of incomplete oxidation, and heterogeneous rupture of chains or heterogeneous completion of the oxidation at the walls. If, however, both the interior of the reaction tube and the capillary carrying the thermocouple are coated with NaCl, no reaction at all takes place within 8 hrs. under an initial pressure of 120 mm. Hg. At 330°, under an initial pressure of 200 mm. Hg, the rate is very slow, and the rate max. very low, with all the walls coated with NaCl. It suffices, however, to bare a tiny fraction of the surface of the central capillary to get a very marked increase of the rate of pressure rise and of the temp. rise, and with $\frac{1}{10}$ of the surface bared, the max. rate is one-half of that found with the total surface bare. This is taken to indicate that the wall is not just the seat of rupture of chains and complete oxidation of the intermediate products, but mainly the seat of generation of chains. The rate max. at a fixed initial pressure decreases linearly with the increase of the fraction of surface covered by NaCl; at an initial pressure of 200 mm. Hg, the max. rate falls to zero with 100% of the surface coveted, whereas under 150 and 170 mm., the max. rate is practically zero with ~70% of the surface coated. It is evident that, of the 2 heterogeneous processes of chain rupture and chain generation at the wall, the latter is rate-detg. The fact that the fraction of surface uncoated dets. the rate throughout the course of the reaction indicates that the generation of chains at the wall is operative not only at the initial stage but throughout the reaction. Applied to heterogeneous catalysis, these results indicate that proportionality between the rate and the catalyst surface area is not necessarily an indication of a pure heterogeneity of the process. Possibly many heterogeneously catalyzed reactions will prove actually to be mixed homogeneous-heterogeneous processes. N. Thon

CA

Mechanism of the "mild" catalysis. V. V. Shalya, M. A. Pisarzhevskaya, and M. V. Polyakov (I. V. Pisarzhevskii Phys. Chem. Inst. Acad. Sci. U.S.S.R., Moscow). *Doklady Akad. Nauk S.S.S.R.* 74, 1113–15(1950).—Oxidation of a $C_2H_2 + C_2H_6$ mixt. with O_2, with the vol. ratio gas:O_2 = 1:1, in a static system, was followed both by detns. of the intermediate peroxides and aldehydes produced by incomplete oxidation, and by measurements of the temp. rise produced in the center of the reaction bulb, with the capillary carrying the thermocouple coated on the outside with NaCl to ensure a catalytically inactive surface. Both methods gave, in all cases, practically coinciding curves of the rate of pressure increase against time, characterized by an initially slow rise of the rate of the incomplete oxidation, passage through a max., and subsequent fall. In a reaction bulb of Mo glass, with an initial pressure of 200 mm. Hg, initial temp. 375°, coating of 0.7% of the wall of the vessel (18 × 4.3 cm.) with Pt resulted in a sharp lowering of the rate of the mild oxidation, the max. becoming flat and low. This indicates that on Pt, reactions of complete oxidation of the intermediate products to CO_2 proceed much more vigorously than on glass. If all of the glass wall is coated with Pt, no reaction at all (i.e. no intermediate peroxides and no temp. rise in the center of the bulb) is observed with an initial pressure of 200 mm. and an initial temp. of 300°. However, with the initial temp. raised to 333°, and the initial pressure to 200 mm., the homogeneous reaction of incomplete oxidation develops vigorously, and its rate rises with the pressure and the temp. It means that, under these conditions, Pt behaves as a "mild" catalyst, initiating the homogeneous reaction; higher pressure reduces diffusion of the intermediate products to the surface and thus reduces the probability of rupture of chains. Coating of the wall with V_2O_5 has the same effect as coating with Pt. At 330° and under 200 mm., no homogeneous reaction is observed, but the heterogeneous-homogeneous reaction develops above 305° and 302 mm. Consequently, under conditions favorable to production and preservation of intermediate products of incomplete oxidation, both Pt and V_2O_5 can act as "mild" catalysts. In this process, heterogeneous initiation is followed by a homogeneous stage taking place in the space between the catalyst grains.

N. Thon

SHALYA, V. V.

[illegible] and mechanism of polymerization of vinyl acetate. M. V. P[illegible]kov, A. Ya. P[illegible]ina, T. P. [illegible]ienko, and V. V. Shalya (Inst. Phys. Chem., Acad. Sci. Ukr. S.S.R., Kiev.). Zhur. Fiz. Khim. 25, [illegible] (1951).--The rate of polymerization of vinyl acetate, catalysed by benzoyl peroxide, was studied in a thermally insulated vessel to investigate the autocatalysis of the chain reaction under conditions of possible thermal explosion (cf. Schulz and Blaschke, C.A. 36, 4012[1]). The reaction was followed by means of a thermocouple. The av. chain length L of the product was detd. viscometrically. The time-temp. curves first show a slight upward trend during the induction period r, then an abrupt rise of about 185° during 1 to 3 min. The value of r (min.) decreases with increasing initial temp. t_0. Thus for t_0 = 65,7[illegible],[illegible], and 95°, r = [illegible],17,15, and 10, resp. With increasing catalyst concns. (1,1.5,2,3, and 4%), r decreases as well for a const. t_0(3[illegible],17,1[illegible],[illegible],[illegible]). For t_0 = 50,[illegible],65,[illegible], [illegible], and 95°, L = 31[illegible],2[illegible],1[illegible],125,114, and 110. For 0.5, 1.0, 1.5, 2.0, 3.0, and 4.0% of catalyst, L = 371,191, 1[illegible],107,[illegible], and [illegible], at const. t_0. Expts. with a vessel of [illegible] mm. diam. contg. 7 cc. of monomer (1% catalyst) led to an explosion with destruction of the vessel after r ≈ 80 min. All expts. reported above were thus made in a 10-mm. vessel contg. 3 to 5 cc. Then sharp autocatalysis took place but without explosion. This indicates an effect of vessel diam. and quantity of monomer on the kinetics of polymerization.

Michel Boulart

SHALYA, V.V.

Device for taking gas samples at low pressures. Zav. lab. 23 no.4: 501 '57. (MLRA 10:6)

1. Institut fizicheskoy khimii im. L.V. Pisarzhevskogo Akademii nauk USSR.

(Gases--Analysis)

SHALYA, V. V.

AUTHORS: Vysotskiy, Z.Z., and Shalya, V.V. 69-20-1-4/20

TITLE: The Heats of Hydration of Some Cations and the Effect of Their Adsorption on the Structure of Silica Gels (Teploty gidratatsii nekotorykh kationov i vliyaniye adsorbtsii poslednikh na strukturu silikagelya)

PERIODICAL: Kolloidnyy Zhurnal, 1958, Vol. XX, # 1, pp 29-33 (USSR)

ABSTRACT: The washing of silica gels, by solutions of various electrolytes, causes differences in the porous structure of the product. The principal cause is the pH of the medium, which influences the character of the ion exchange. In the article, the influence of the nature of some cations adsorbed by the hydrogel of silicic acid on the structure of the dry silica gel is investigated. The structural adsorption characteristics of the silica gels were determined by measuring the adsorption isotherms of methyl alcohol vapors, at 23°C, in a vacuum device with a quartz spring scale. Fig. 1 shows that the silica gel has a fine porous structure when the washing medium is strongly acid (pH 3.5). If the medium is weakly acid, neutral or alkaline, i.e. when a cation

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69-20-1-4/20

The Heats of Hydration of Some Cations and the Effect of Their Adsorption on the Structure of Silica Gels

ASSOCIATION: Institut fizicheskoy khimii AN UkrSSR imeni L.V. Pisarzhevskogo, Kiyev (Institute of Physical Chemistry of the Ukrainian AS imeni L.V. Pisarzhevskiy, Kiyev)

SUBMITTED: July 6, 1956

AVAILABLE: Library of Congress

Card 3/3

SOV/80-59-1-5/4[illegible]

AUTHORS: Vysotskiy, Z.Z. and Shalya, V.V.

TITLE: Properties of Silica Gels Obtained by Drying Gels of Silicic Acid in Vacuum (Svoystva silikageley, poluchennykh s[illegible] geley kremnevoy kisloty v vakuume)

PERIODICAL: Zhurnal prikladnoy khimii, 1959, Nr 1, pp 35-39 (USSR)

ABSTRACT: The authors describe the results of a comparative investigation of silica gels obtained from the hydrogels, alcogel and benzogels of the silicic acid. A method of drying the gels of the silicic acid in vacuum at a lowered temperature was developed in the course of this investigation, and it is also described in the article. The properties of silica gels obtained under various conditions are as follows: 1. The dehydration of hydrogels of the silicic acid yields fine-porous silica gels with the uniform porous structure. The structure of benzogels almost does not depend on the method of drying but essentially depends upon the conditions of water substitution by the benzene; 2. The substitution of the water of a hydrogel by the ethyl alcohol at room temperature almost does not change the porous structure of the dry gel; the substitution of water by the benzene, however, leads to a change in the structure; 3. The surface tension of the intermicellar liquid does not generally play any important role in the formation of the porous structure of the silica gels. Physico-chemical

Card 1/2

SOV/21-59-1-18/26

5(4)

AUTHORS: Polyakov, M.V., Vysotskiy, Z.Z., Shalya, V.V. and Gushchin, P.P.

TITLE: On the Existence of a Heterogeneous-Homogeneous Mechanism in Fluid Catalysis Conditions (K voprosu o nalichii geterogenno-gomogennogo mekhanizma v usloviyakh flyuidnogo kataliza)

PERIODICAL: Dopovidi Akademii nauk Ukrains'koi RSR, 1959, Nr 1, pp 67-71 (USSR)

ABSTRACT: The method of fluid catalysis is used (on the example of the reaction of conversion of methanol into formaldehyde in the presence of a copper-pumice catalyst) to clear up the macromechanism of gas reactions in conditions as close as possible to the conditions of the usual industrial catalytic processes. The results in the whole, and the analysis thereof, lead to the conclusion that the studied catalytic process in the

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On the Existence of a Heterogeneous-Homogeneous Mechanism in Fluid Catalysis Conditions.

boiling contact layer is a complex heterogeneous-homogeneous reaction with homogeneous stages proceeding not only beyond the fluid catalyst's layer, but inside the catalyst's layer, between its grains, as well. The observed facts do not fit into the picture of a purely heterogeneous catalytic process. There are 4 graphs and 8 references, 6 of which are Soviet, 1 Italian and 1 English.

ASSOCIATION: Institut fizicheskoy khimii im. L.V. Pisarzhevskogo, AN UkrSSR (Institute of Physical Chemistry imeni L.V. Pisarzhevskiy of the AS UkrSSR).

PRESENTED: July 28, 1958, by A.I. Brodskiy, Member of the ASUkrSSR

sharply, and the yield of CO_2, H_2, and CO increased. As the methanol content approached the lower limit of explosive mixtures (7% methanol), the yield of formaldehyde increased again. In the range of 9 to 20% methanol content, a flame appeared in some instances over the fluidized catalyst bed; sometimes a quick flash or explosion occurred. When a catalyst of lower activity was used, the formaldehyde yield dropped sharply when the temperature reached 540-550°, and a flame appeared over the fluidized bed. The appearance of this flame showed the presence of a homogeneous reaction within the composite heterogeno-homogeneous catalytic process. This homogeneous reaction originated on the surface of the catalyst; under different conditions, when the walls of the reaction vessel over the fluidized bed are overheated, such reactions can also originate as wall reactions. The presence of homogeneous reactions between the catalyst granules was confirmed by empirical data, as discussed below.

Investigation of the Catalytic Conversion of Methanol Into Formaldehyde in Fluidized Bed

75676
SOV/80-32-10-25/51

The gradual change of the curves expressing the yield of the products in relation to temperature up to the moment of the appearance of the flame, indicated that the flame constituted a growth of primary homogeneous stages in the space between the catalyst granules. The yield of formaldehyde was lower in stationary than in fluidized catalyst, other conditions being equal; this was explainable by the decrease of the gaps between the catalyst grains in the stationary state which reduced the chances of homogeneous reactions taking place in these gaps. Further, the decrease of the yield of formaldehyde, H_2, and the decrease of the total rate of conversion with the decreasing flow velocity of the gas mixture could be explained only by the contraction of the gaps between the catalyst grains. Porous (with pumice carrier) and nonporous (with quartz carrier) catalysts gave identical yields; this showed that only the outside catalyst layer participated in the catalysis, and this is an additional, indirect argument in favor

Card 4/5

of the heterogeno-homogeneous mechanism of the catalytic process. The yield of formaldehyde was from 70 to 74% calculated on methanol; this was considerably higher than the yield over stationary catalyst layer; the above study is, therefore, of practical interest. There are 7 figures; 1 table; and 14 references, 2 U.S., 1 Belgian, 1 British, 10 Soviet. The U.S. references are: Nader, R. N., Wallace, R. D., McKinney, R. W., Ind. Eng. Chem., 44, 1508 (1952); Jones, E., Fowlie, G. G., J. Appl. Chem., 3, 206 (1953).

SUBMITTED: August 15, 1958

Card 5/5

SHALYA, V.V.; PIONTKOVSKAYA, M.A.; POLYAKOV, M.V.

Oxidation kinetics of a propane-butane mixture in the presence of platinum and vanadium pentoxide. Ukr. khim. zhur. 27 no.2:184-189 '61. (MIRA 14:3)

1. Institut fizicheskoy khimii im. L. V. Pisarzhevskogo AN USSR.
(Oxidation) (Propane) (Butane)

YEVMENENKO, N.P.; SHALYA, V.V.; POLYAKOV, M.V.

Effect of the diameter of quartz tubes on the decomposition of methyl alcohol. Ukr.khim.zhur. 28 no.7:829-832 '62. (MIRA 15:12)

1. Institut fizicheskoy khimii im. L.V.Pisarzhevskogo AN UkrSSR.
(Methanol) (Pyrolysis)

POLYAKOV, M.V.; YEVMENENKO, N.P.; SHALYA, V.V.

Effect of the reactor diameter on the conversion of methanol in the presence of a silver catalyst. Ukr.khim.zhur. 28 no.9:1019-1023 '62. (MIRA 15:12)

1. Institut fizicheskoy khimii im. L.V. Pisarzhevskogo AN UkrSSR.

(Chemical reactors)
(Methanol)

YEVMENENKO, N.P.; SHALYA, V.V.; POLYAKOV, M.V.

Oxidation of methanol in the presence of a silver catalyst.
Ukr. khim. zhur. 29 no.7:731-733 '63. (MIRA 16:8)

1. Institut fizicheskoy khimii im. L.V. Pisarzhevskogo AN UkrSSR.
(Methanol) (Oxidation) (Silver catalysts)

SHALYA, V.V.; KOLOTUSHA, B.I.; MITROKHINA, V.A.; KULINICH, M.T.; POLYAKOV, M.V.

Conversion of alcohols to aldehydes in a fluidized bed of copper and silver catalysts. Ukr. khim.zhur. 29 no.9:904-908 '63. (MIRA 17:4)

1. Institut fizicheskoy khimii im. L.V.Pisarzhevskogo AN UkrSSR.

SHALYA, V.V.; KOLTNICH, M.[illegible]; POLYAKOV, M.V.

Effect of the size of grains on the conversion of methyl alcohol to formaldehyde in a fluid bed of silver and copper catalysts. Kin. i kat. 5 no.5:916-919 S-O '64. (MIRA 17:12)

1. Institut fizicheskoy khimii imeni Pisarzhevskogo AN UkrSSR.

LESHCHENKO, P.D., red.; BARCHENKO, I.P., red.; KOLOMEYTSEVA , M.G., red.; KRYZHANOVSKAYA, Ye.S., red.; SHALYA, O.A., red.

[National nutrition] Ratsional'noe pitanie. Kiev, Zdorov'ia, 1965. 219 p. (MIRA 18:9)

1. Ukrainskiy nauchno-issledovatel'skiy institut pitaniya.
2. Ukrainskiy nauchno-issledovatel'skiy institut pitaniya (for Leshchenko, Kryzhanovskaya, Shalya).

ACC NR: AP6036113 SOURCE CODE: UR/0365/66/002/006/0686/0691

AUTHOR: Shalyafirner, A. M.; Degtyareva, R. A.; Pimenov, A. F.; Alyshova, Ye. I.; Yerakov, V. I.; Lifanov, V. F.; Anzin, G. N.

ORG: Moscow Institute for Steels and Alloys (Moscovskiy institut stali i splavov); Central Research Institute for Ferrous Metals (Tsentral'nyy nauchno-issledovatel'skiy institut chernykh metallov); Novolipetskiy Metallurgical Plant (Novolipetskiy metallurgicheskiy zavod)

TITLE: Internal oxidation of steel with 3% silicon

SOURCE: Zashchita metallov, v. 2, no. 6, 1966, 686-691

TOPIC TAGS: metal oxidation, silicon steel, hot rolling

ABSTRACT: The article reports a study of the oxidation and decarbonization of steel with 3% silicon and 0.05% carbon in the process of hot rolling in an industrial unit, and of decarbonizing annealing (in the presence of scale) in industrial electric furnaces. Steel strips were hot rolled to a thickness of 2.5 mm. In rolling, the initial oxidation temperature was maintained at $940 \pm 10^{\circ}$. The total length of the discharge table was 36 meters; in the last 30 meters the strip was cooled rapidly with water and was in an atmosphere of steam. After this, the strip was coiled and the air supply was cut sharply. The average cooling rate of the strip on the table, under

UDC: 620.193.5

Card 1/2

Chalyagin, V.N.

AUTHOR: Chalyagin, V.N. 113-58-5-10/22

TITLE: Effectiveness of Disconnecting the Fan of an Automobile Engine (Effektivnost' otklyucheniya ventilyatora avtomobil'nogo dviga-telya)

PERIODICAL: Avtomobil'naya Promyshlennost', 1958, Nr 5, p 31 (USSR)

ABSTRACT: By analytic and graphic calculations the author shows that by disconnecting the engine fan periodically, a 3 to 4 % savings in fuel could be achieved when the automobile is loaded, and 4 to 5% when unloaded. The author states that some kind of a device is needed, that can be added to the cooling system to disconnect the ventilator when conditions allow it. There are 2 graphs and 1 Soviet reference.

ASSOCIATION: Khar'kovskiy avtodorozhnyy institut (The Kharkov Highway Institute)

AVAILABLE: Library of Congress

Card 1/1 1. Automobile industry 2. Cooling fans 3. Economics

SOV/113-59-4-11/19

12(2)

AUTHOR: Shalyagin, V.N.

TITLE: The Dynamics of Braking an Automobile With the Engine

PERIODICAL: Avtomobil'naya promyshlennost', 1959, Nr 4, pp 32-33 (USSR)

ABSTRACT: The author introduces the conceptions of the braking factor and the braking characteristic of an automobile engine. For this purpose, the author obtained experimental data investigating a GAZ-51 engine in the engine laboratory of the Khar'kovskiy avtomobil'no-dorozhnyy institut (Khar'kov Automobile and Highway Institute). The differential equation of the motion of an automobile during stopping without skidding of the wheels, which is characteristic when using the engine as a brake, may be presented in the following form:

$$j_T = -\frac{dv}{dt} = \frac{g}{\delta} \cdot \frac{P_T + P_f + P_i + P_w}{G_a}$$

Card 1/3 whereby j_T - retardation of the automobile; dv - differential

The Dynamics of Braking an Automobile With the Engine

of speed; dt - differential of time; g - gravity acceleration; δ - factor considering the rotating mass of an automobile; P_T - braking force, created by the automobile brakes; P_f - rolling resistance force of the wheels; P_i - lift resistance force; P_w - resistance of the air towards the motion of the automobile. The braking characteristic may be expressed by the following formula:

$$P_T = \frac{1}{\eta_{mp}} \cdot \frac{M_T i_o i_k}{r_k}$$

whereby M_T - braking moment; i_o - final drive gear ratio; i_k - transmission gear ratio; r_k - radius of rolling of the wheels; η_{mp} - mechanical efficiency of the automobile transmission. The value of the braking factor $D_T = \frac{P_T + P}{Ga}$ may be represented as a function of the automobile speed. This permits plotting a graph of the dependence of the braking factor upon the speed, which is the braking characteristic

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The Dynamics of Braking an Automobile With the Engine

of an automobile. The author presents a graph of the brake characteristic of the GAZ-51 engine and the braking characteristic of the GAZ-51 automobile in different gears (Figures 1 and 2). The author concludes that the estimation of the braking properties of an automobile should be made by the braking characteristic when using the engine for braking. When plotting the braking characteristic of an automobile, it is necessary to know the braking characteristic of the engine, which may be obtained by turning the crankshaft of the latter by an external power source. The braking characteristic simplifies the solution of a number of dynamic problems and may simplify the calculation of the motion of an automobile under different operation conditions. There are 4 graphs.

ASSOCIATION: Khar'kovskiy avtomobil'no-dorozhnyy institut (Khar'kov Automobile and Highway Institute).

SOV/113-59-6-8/21

12(2)

AUTHOR: Shalyagin, V.N.

TITLE: The Balance of Fuel Consumption During Varying Load Conditions

PERIODICAL: Avtomobil'naya promyshlennost', 1959, Nr 6, pp 25-26 (USSR)

ABSTRACT: Tests were carried out at the Khar'kovskiy avtomobil'no-dorozhnyy institut (Khar'kov Automobile Road Transport Institute) to establish the balance of fuel consumption of an automobile under varying conditions. The tests were made on a GAZ-63 automobile with the aid of a special measuring device devised by the author. This device has three measuring vessels with cocks (valves) controlled by electromagnets. The vessels are automatically connected to the engine, each vessel being designed to measure fuel consumption under certain working conditions of the engine. The automatic control system of the instrument is based on the characteristics of the

Card 1/3

The Balance of Fuel Consumption During Varying Load Conditions

separate working conditions of the engine. The results of the tests are as follows, where (1) is the type of road, (2) is the average technical speed in km per hour, (3) is average fuel consumption in liters per 100 km (4), (5) and (6) are the percentages of fuel consumed under traction (working) conditions, compulsory idle running and free idle running respectively;

(1) Town roads with an asphalt surface (2) 23-28 (3) 28-32 (4) 78-86 (5) 4-8 (6) 10-14

(1) Suburban roads with an asphalt surface in flat country (2) 42-46 (3) 20-24 (4) 87-93 (5) 1-3 (6) 6-10

(1) Suburban roads with an asphalt surface in hilly country (2) 32-37 (3) 24-28 (4) 84-88 (5) 2-4 (6) 10-12

(1) Suburban roads with an asphalt surface in mountainous country (2) 25-30

SHKHORUKOV, A.R., inzh.; SHALYAGIN, V.N., inzh.; SHAKHBAZOV, O.K., inzh.

Mechanical brake and slow-down device for mtor vehicles with four-cycle diesel engines. Mashinostroenie no. 2:95-96 Mr-Ap '64. (MIRA 17:5)

SHALYAGIN, V.N., kand. tekhn. nauk

Longitudinal skid resistance of motor vehicles under traction conditions and at engine braking. Avt. prom. 30 no.5:15-18 My '64. (MIRA 17:9)

1. Khar'kovskiy avtomobil'no-dorozhnyy institut.

SHALYAKIN, N.I.

Dragline attachment for sloping high banks. Rats. i izobr. predl. v stroi. no.79:14-15 '54. (MIRA 8:4)
(Excavating machinery)

KURILENKO, S., polkovnik; SHALYAPIN, A., podpolkovnik

Protection from weapons of mass destruction in a defensive position. Voen. vest. 41 no.7:37-39 Jl '61. (MIRA 15:1)
(Atomic weapons--Safety measures) (Chemical warfare--Safety measures)

POLUKHIN, P. I., prof., doktor tekhn. nauk; SHALYAPIN, M. M., inzh.; MASTEROV, V. A., inzh.

Conditions of plastic friction on the surface of the contact between strip and rolls during longitudinal rolling. Sbor. Inst. stali i splav. no.40:56-65 '62. (MIRA 16:1)

(Rolling(Metalwork)) (Friction)

SOKOLOV, Nikolay Mikhaylovich, kandidat tekhnicheskikh nauk; SHALYAPIN, R.S., kandidat tekhnicheskikh nauk, redaktor; POLIVANOV, S.I., redaktor izdatel'stva; GUSEVA, S.S., tekhnicheskiy redaktor

[Manual on the preparation of rammed concrete piling] Rukovodstva po izgotovleniiu nabivnykh betonnykh chastotrambovannykh svai. Moskva, Gos. izd-vo lit-ry po stroit. i arkhitekture, 1956. 46 p. (MLRA 9:10)
(Concrete piling)

SHALYAPIN, V.V.; STANKO, Ye.A.

Investigating blood pressure and respiration in experimental epilepsy. Fiziol.zhur. (Ukr.) 1 no.3:43-50 My-Je '55. (MLRA 9:9)

1. Odes'kiy medichniy institut, Kafedra patologichnoi fiziologii.
(EPILEPSY) (BLOOD PRESSURE) (RESPIRATION)

KUKHARENKO, T.A.(Moskva); LYUBIMOVA, S.L. (Moskva); SHALYAPINA, A.N. (Moskva).

Feasibilities of determining coal varieties and the stages of their oxidation. Izv.AN SSSR.Otd.tekh.nauk no.12:133-136 D '56. (MLRA 10:1)

(Coal--Analysis) (Oxidation)

L 11369-67 EWT(1) SCTB DD/GD

ACC NR: AT6036492 SOURCE CODE: UR/0000/66/000/000/0056/0057

AUTHOR: Barutkina, T. S.; Zarubaylo, T. T.; Mityushov, M. I.; Nozdrachev, A. D.; Panov, A. N.; Fedorova, L. D.; Shalyapina, V. G.

34

ORG: none

TITLE: Adrenal cortex and nervous system stress reactions [Paper presented at conference on problems of space medicine held in Moscow from 24-27 May 1966]

SOURCE: Koferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 56-57

TOPIC TAGS: animal physiology, adrenal gland, nervous system, space physiology, biologic metabolism

ABSTRACT:

For a number of years the authors' laboratory has investigated the reaction of the nervous system to various stressors (pain, electric shock, noise, cold etc.) as a function of the adrenal cortex. In chronic dog experiments using implanted electrodes, it was established that there is a decrease in afferent and efferent impulsation, which takes place within a day under the influence of stressors.

Card 1/3

L 11369-67

ACC NR: AT6036492

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An injection of hydrocortisone prevents bioelectrical depression while desoxycorticosteronacetate either has no effect or a converse one by way of actually depressing bioelectric activity.

The reaction of brain catecholamines to stressors may depend on the level of peripheral blood corticosteroids. For instance, injection of large doses of hydrocortisone precludes a decrease in brain catecholamine level in response to cold. Chronic injection of "physiological doses" of hydrocortisone prevents a decrease in brain norepinephrin during the chronic application of stressors. Stress leads to a significantly greater depletion of brain catecholamine reserves in adrenalectomized animals than in intact animals.

The metabolism of the brain was studied in a resting state and during stress. The concentration of ATP, ADP, AMP, GTP, GDP, lactic, citric, pyruvic and ketoglutaric acids were determined after injection of hydrocortisone in animals in a resting state and during electrocutaneous stimulation. It was found that under these experimental conditions, which entailed prolonged (one day) irritation, metabolic indices were unchanged. Brief (45 sec) irrita-

Card 2/3

L 11369-67

ACC NR: AT6036492

tion caused an intensification of glycolysis. Injection of hydrocortisone lowered the content of ATP while the concentration of ADP, AMP, and citric acid was increased. [W. A. No. 22; AID Report 66-116]

SUB CODE: 06 / SUBM DATE: 00May66

Card 3/3

BELOVINTSEVA, M.F.; SHALYAPINA, V.G.

Insulin inactivating capacity of the hepatic tissue of rats in experimental pancreatic diabetes. Pat. fiziol. i eksp. terap. 8 no.6:55-57 N-D '64. (MIRA 18:6)

1. Laboratoriya fiziologii zhelez vnutrenney sekretsii Instituta fiziologii imeni Pavlova AN SSSR, Leningrad.

MOTSKUS, I.B. (Kaunas), SHAL'YATYANIS, V.R. (Kaunas)

Use of an electronic digital computer for automatically choosing an optimum variant in the future development of electric networks. Izv. AN SSSR. Otd. tekh. nauk. Energ. i avtom. no.6:15-22 N-D '60. (MIRA 13:12)

(Electric power distribution)

SHALYBKOV, Aleksandr Aleksandrovich; KUZ'MENKO, Vladimir Il'ich; BALAYEV, G.A., red.

[Organization methods for the propaganda of chemical knowledge] Metodika organizatsii propagandy khimicheskikh znanii. Leningrad, 1964. 37 p. (MIRA 18:3)

[illegible], Valeriy Aleksandrovich; [illegible], A.A., red.

[Organization of the dissemination of progressive practice in the technical study rooms of the Central Bureau of Technological Information of the Leningrad Economic Council] Organizatsiia propagandy peredovogo opyta v tekhnicheskikh kabinetakh TsBTI Lensovnarkhoza. Leningrad, 1964. 47 p. (MIRA 17:7)

BURAKOVSKIY, V.I.; BUKHARIN, V.A.; GEL'SHTEYN, G.G.; KNYAZEVA, G.D.; LEBEDEVA, G.K.; MEYTINA, R.A.; SHALYBKOVA, O.P.

Cardioplegia in surgery with artificial blood circulation. Grud. khir. 5 no.2:26-35 Mr-Ap'63 (MIRA 17:2)

1. Iz Instituta serdechno-sosudistoy khirurgii (direktor - prof. S.A. Kolesnikov, nauchnyy rukovoditel' - akademik A.N. Bakulev) AMN SSSR. Adres avtorov: Moskva V-49, Leninskiy prosp. , d.8, Institut serdechno-sosudistoy khirurgii AMN SSSR.

M

COUNTRY : USSR
CATEGORY : Cultivated Plants - Forage Crops.

ABS. JOUR. : RZhBiol., No. 14, 1958, No. 63460

AUTHOR : Shelyugnova, O. N.
INST. : Ivanov Agricultural Institute
TITLE : On the Characteristics of the Development of Inflorescences and Flowers in *Yellow (Forage) Lupine Under Different Conditions of Environment.

ORIG. PUB. : Sb. nauchn. tr. Ivanovsk. s.-kh. in-ta, 1956, vyp. 14, 128-137

ABSTRACT : For two years, the seeds of yellow lupine were sown every 15 days from the 15th of May to the 25th of July. A systematic study of the growth cone permitted to determine the periods of the starting of the flower parts and inflorescences and to ascertain the most favorable conditions for their development (temperature, intensity of light and the length of the day). It was found that in the period from the appearance of the sprouts until the differentiation of the growth cone, a temperature of 10-16° and a length of day of not less than 14 hours are necessary for lupine plants. The second period, from the start of the formation of pri-

Card: 1/2

*European

ORIG. PUB.

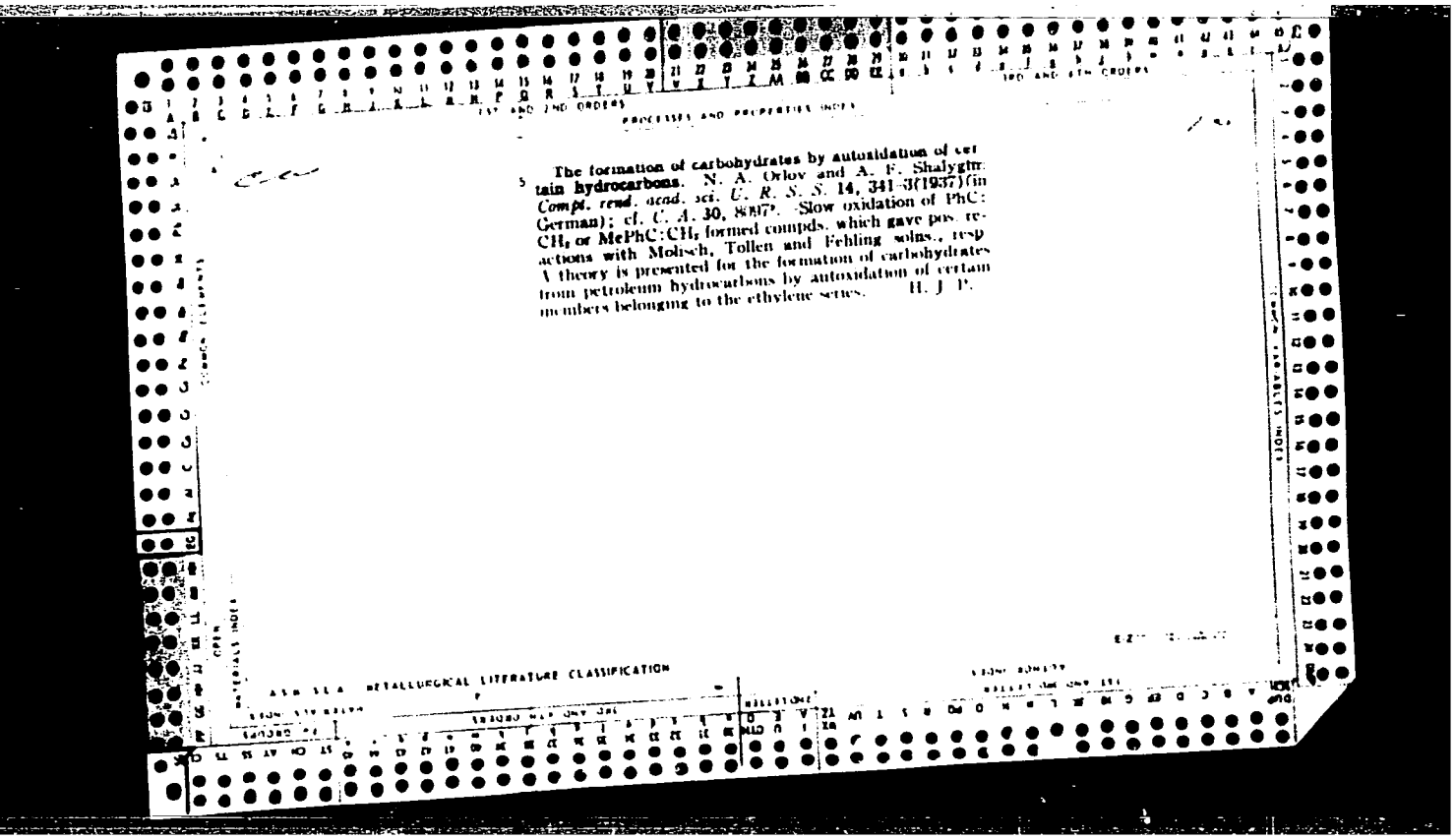
ABSTRACT : mordia until the formation of pollen, requires higher temperatures. During the budding stage, the heat requirements become lower. Unfavorable conditions during the passage of separate stages contribute to a lowering of the rate of the development of generative organs or to a deformed development of them. The critical periods are: the beginning of flower formation, and formation of pollen and parts of the pistil. — S.A. Kondrat'yeva-Tel'vil'

Card: 2/2

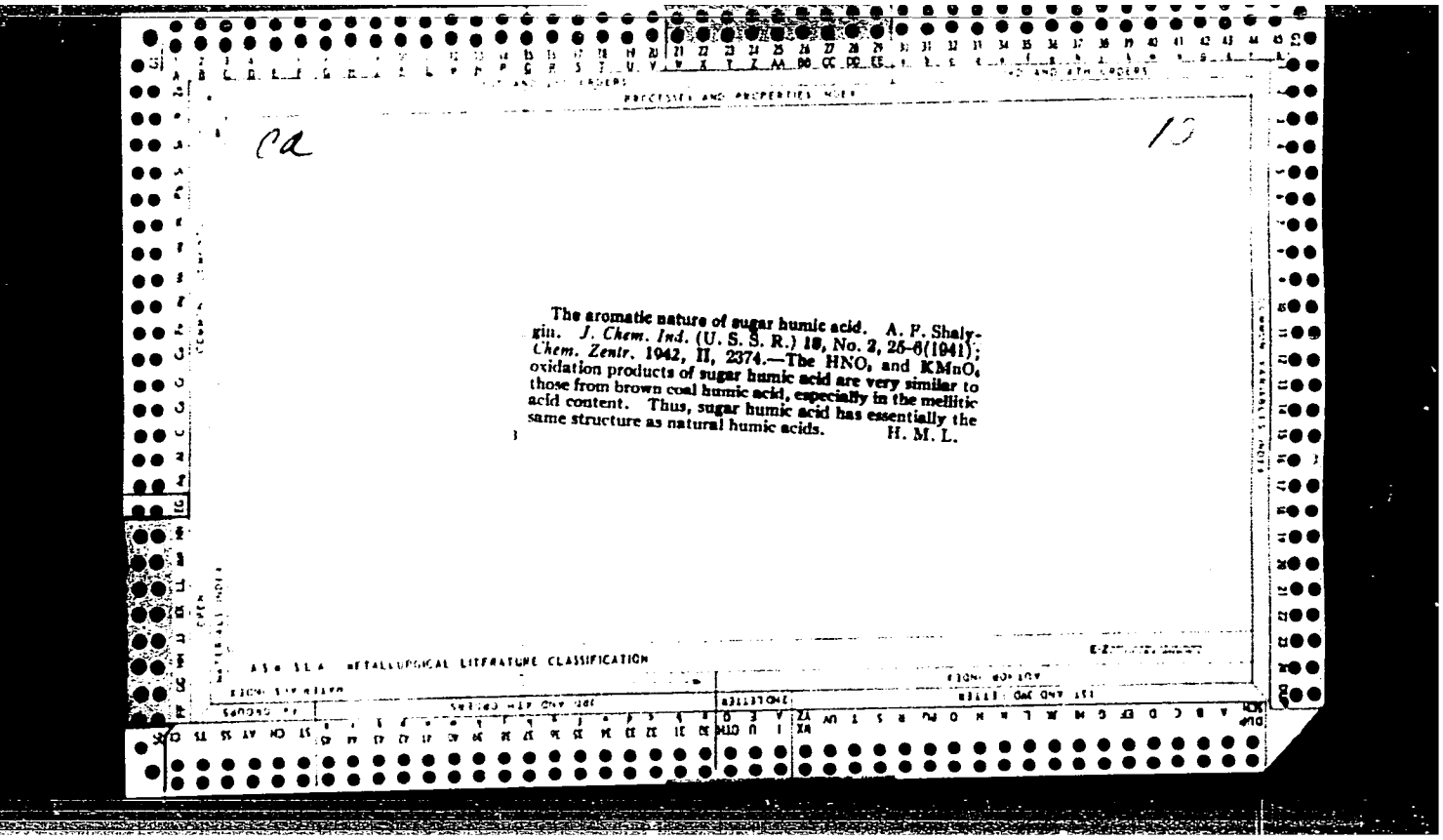
SHALYGANOVA, O.N., dotsent

Growth, development and yields of yellow forage lupine in Ivanovo District of Ivanovo Province. Sbor.nauch.trud. Ivan. sel'khoz.inst. no.16:88-95 '58. (MIRA 13:11)

1. Kafedra botaniki i selektsii Ivanovskogo sel'skokhozyaystvennogo instituta.
(Ivanovo Province--Lupine)



The formation of carbohydrates by autoxidation of certain hydrocarbons. N. A. Orlov and A. F. Shalygin. *Compt. rend. acad. sci. U. R. S. S.* 14, 341–3(1937)(in German); cf. *C. A.* 30, 8887². Slow oxidation of PhC:CH, or MePhC:CH, formed compds. which gave pos. reactions with Molisch, Tollen and Fehling solns., resp. A theory is presented for the formation of carbohydrates from petroleum hydrocarbons by autoxidation of certain members belonging to the ethylene series. H. J. P.



Ca 12

The aromatic nature of sugar humic acid. A. P. Shalygin. *J. Chem. Ind.* (U. S. S. R.) **18**, No. 2, 25-6(1941); *Chem. Zentr.* 1942, II, 2374.—The HNO_3 and $KMnO_4$ oxidation products of sugar humic acid are very similar to those from brown coal humic acid, especially in the mellitic acid content. Thus, sugar humic acid has essentially the same structure as natural humic acids. H. M. L.

SHAMOV, A. F.

"Dicarbonyl Furan Compounds: I. Diketones and Triketones of the Furan Series," Zhur. Obshch. Khim., 15, Nos. 4-5, 1945. Kaf., Lab. Organic Chemistry, Saratov State Univ. im. N. G. Chernyshevskiy, -1944-.

SHALYGIN, A.F.

Shalygin,A. F. "The aromatic nature of saccharohumic acid," Uchen. zapiski (Chkal. gos. ped. in-t im Chkalova), Natural and geographical sciences series, Issue 1, 1949, p. 85-90 -- Bibliog: 9 items

SO: U-3566,15 March, 53, (Letopis 'Zhurnal 'nykh Statey, No. 14, 1949).

SHALYGIN, B.

Innovator Grigorii Il'ichenko. Mashinostroitel' no.4:4 Ap '63.
(MIRA 16:5)

1. Predsedatel' zavodskogo komiteta Smelyanskogo mashinostroitel'nogo zavoda.

(Smela--Machinery industry)

KOLESNIKOV, B.P.; SHALYGIN, B.N.; YAKOVLEV, G.S.

Technological aspects of logging operations and their sivicultural significance at the Skorodumsk Logging Camp of the "Sverdles" Combine. Trudy Inst. biol. UFAN SSSR no.16:127-136 '60. (MIRA 13:10)

1. Institut biologii Ural'skogo filiala AN SSSR i Skorodumskiy lespromkhoz kombinata "Sverdles".
(Sverdlovsk Province--Lumbering)

STURMAN, A.V., veter. vrach (Strashenskiy rayon, Moldavskaya SSR); BULGAKOV, Yu.N., veter. fel'dsher (Strashenskiy rayon, Moldavskaya SSR); KAL'NITSKIY, P.I., veter. vrach (Strashenskiy rayon, Moldavskaya SSR); OCHAKOVSKIY, Z.M., veter. vrach (Strashenskiy rayon, Moldavskaya SSR); GOTSENOGA, A.D. (Strashenskiy rayon, Moldavskoy SSR); ABRAMYAN, G.I., veter. vrach; MEKHTIYEV, M.G., veter. fel'dsher (s.Shirozlu, Vedinskogo rayona Armyanskoy SSR); KIRAKOSYAN, A.A., veter. vrach; GEORGIYEV, Yu.P., veter. vrach; LOMAKIN, A.M., nauchnyy sotrudnik; SHEPELEV, L.A., veter. vrach.; TARASOV, I.I., assistent; ROMASHKIN, V.M., veter. tekhnik; ANDRIYAN, Ye.A.; BARTENEV, V.S.; KOROL', Ye.I., veter. tekhnik; YEROSHENKO, A.K., aspirant; BANZEN, Ya.P.; SARAYKIN, I.M., prof.; ZHEVAGIN, A.N., veter. vrach; BUT'YANOV, D.D., veter. vrach (Klimovichskiy rayon, Mogilevskoy oblasti BSSR); SHALYGIN, B.V., veter. vrach (Klimovichskiy rayon, Mogilevskoy oblasti, BSSR); RYABOKON, G.T., veter. fel'dsher; MOVSUMZADE, K.K., prof.; DUGIN, G.L., aspirant; TITOV, G.I., nauchnyy sotrudnik; MEDVEDEV, I.G., veter. vrach.; ALIKAYEV, V.A.; ALLENOV, O.A., veter.vrach.

Prophylaxis and treatment of noninfectious diseases in calves and piglets. Veterinariia 40 no.2:40-47 F '63. (MIRA 17:2)

1. Ul'yanovskaya oblastnaya veterinarno-bakteriologicheskaya laboratoriya (for Sturman). 2. Kolkhoz imeni Kirova. Volokonovskogo

(Continued on next card)

SHARADZENIDZE, S.A.; MINDLIN, I.G.; SHALYGIN, D.A.; TSERETELI, P.A.

Mechanization and automation of pipe mills. Metallurg 8 no.6: 27-29 Je '63. (MIRA 16:7)

1. Rustavskiy metallurgicheskiy zavod.
(Pipe mills) (Automation)

[illegible] Aleksandr Aleksandrovich, kand.tekhn.nauk, dotsent; SHALYGIN, Igor' Vladimirovich, starsh.y inzh.

Control network of an electromagnet using regulated silicon rectifiers. Izv.vys.ucheb.zav.; elektromekh. 8 no.9:1033-1037 '65. (MIRA 18:10)

1. Kafedra elektrooborudovaniya promyshlennykh predpriyatiy Novocherkasskogo politekhnicheskogo instituta (for Denisov). 2. Laboratoriya avtomatizatsii proizvodstvennykh protsessov Novocherkasskogo politekhnicheskogo instituta (for Shalygin).

ACC NR: AP7004342 SOURCE CODE: UR/0144/66/000/010/1102/1114

AUTHOR: Denisov, A. A. (Candidate of technical sciences, Docent); Shalygin, I. V. (Senior engineer)

ORG: Novocherkassk Polytechnic Institute (Novocherkasskiy politekhnicheskiy institut)

TITLE: Optimal current diagram in the circuit of a large-power impulse electromagnet

SOURCE: IVUZ. Elektromekhanika, no. 10, 1966, 1102-1114

TOPIC TAGS: electromagnet, pulse shape

ABSTRACT: The problem of ensuring quick action of an electromagnet with minimum armature-against-core striking force is solved by developing an optimal shape of current impulse in the magnet winding. Theoretical considerations show that: (a) the most desirable armature speed diagram is rectangular, (b) stepping up the force of attraction more than 4 times normal is inexpedient, and (c) the rectangular speed diagram is practically impossible because of electromagnetic and mechanical inertia; hence, a trapezoidal diagram is the most desirable in practice. The optimal current-

UDC: 621.3.014.33+621.318.4

ACC NR: AP7004342

impulse shape can be ensured by applying a forced voltage impulse to the electromagnet through a suitable transistor or technetron circuit. As Soviet-made transistors are not designed for high enough voltages and Soviet technetrons are not fabricated as yet, a thyristor controlled by a logic circuit was used. Transient processes were simulated on an analog computer. A large shell-type conic-plunger 150-kg-pull electromagnet was tested: a plot of final plunger speed vs. forcing time is shown. Conclusions: (1) The current-forcing time to armature-motion time ratio should be 0.1—0.4; (2) The optimal current-impulse shape permits reducing the striking force by 50%; (3) The simplest device for near-optimal shaping of the current impulse is the thyristor phase-controlled by a semiconductor circuit; (4) In complex cases involving variable-mass nonlinear electromagnetic mechanisms, simulation of transient processes on analog computers is recommended. Orig. art. has: 10 figures, 22 formulas, and 4 tables.

SUB CODE: 09, 20 / SUBM DATE: 06Jan66 / ORIG REF: 004 / OTH REF: 001

Card 2/2

AVILOV-KARNAUKHOV, Boris Nikolayevich, doktor tekhn.nauk, prof.; KAYALOV, Georgiy Mikhaylovich, kand.tekhn.nauk, dotsent; BRUSENTSOV, Leonig Vasil'yevich, assistent; SHALYGIN, Igor'Vladimirovich, assistent

Devices for studying the long-term processes. Izv. vys. ucheb. zav.; elektromkh. 3 no.7:92-98 '60. (MIRA 13:9)

1. Zaveduyushchiy kafedroy elektrifikatsii promyshlennykh predpriyatiy Novocherkasskogo politekhnicheskogo institut (for Avilov-Karnaukhov). 2. Novocherkasskiy politekhnicheskiy institut (for Kayalov). 3. Kafedra elektrifikatsii promshlennykh predpriyatiy Novocherkasskogo politekhnicheskogo institut (for Brusentsov). 4. Kafedra elektrifikatsii promyshlennykh predpriyatiy Novocherkasskogo politekhnicheskogo institut (for Shalygin).
(Recording instruments)

L 08062-67
ACC NR: AP7001673 SOURCE CODE: UR/0144/66/000/007/0773/0780

AUTHOR: Shalygin, I. V.; Kravchenko, K. F.; Kireyev, O. P.; Korobeynikov, B. A. 36 B

ORG: none

TITLE: Investigation of torque characteristics of pulse electromagnetic drives

SOURCE: IVUZ. Elektromekhanika, no. 7, 1966, 773-780

TOPIC TAGS: electromagnet, electric engineering

ABSTRACT: The authors analyze the case of drive of a mechanism the applied mass of which on the electromagnet armature is constant or changes insignificantly with time, so that the changes can be ignored. The investigation is limited to the primary function of an electromagnet, when it moves only the actuator mechanism, not when the armature is loaded with other additional forces. The torque characteristics of electromagnets are analyzed in dependence on the form of the air gap between the armature and the stop. A two stage torque characteristic is useful to reduce shock loads in the actuating mechanism. The usage of a two stage torque characteristic in combination with a return spring can reduce or completely eliminate shock loads in the actuating mechanism. With identical parameters of the process, torque characteristic variants with force changes require a considerable increase in initial electromagnet force and strength of the mechanism. Orig. art. has: 3 figures and 15 formulas. [JPRS: 38,490]

SUB CODE: 09 / SUBM DATE: 21Dec65 / ORIG REF: 003

Card 1/1 pla UDC: 621.3.018.7+621.374.3

0924 1441

[illegible]

ACC NR: [illegible] SOURCE CODE: UR/0413/66/000/015/0191/0191

INVENTOR: Balygin, I. V.; Cheryarin, F. N.

ORG: none

TITLE: A metal locator with an inductive detector. Class 21, No. 183845

SOURCE: Izobret prom obraz tov zn, no. 15, 1966, 191

TOPIC TAGS: metal inspection, metal test, induced current

ABSTRACT: This Author Certificate presents a metal locator with an inductive detector. The metal locator includes a generator with positive and negative feedback circuits, an amplifier, and an indicator. The design stabilizes the operating conditions of the generator. An automatically regulated negative feedback circuit is used in the locator. This regulated feedback circuit represents a bridge circuit which is inductively connected with the anode circuit of the amplifier. A thermistor is included in one arm of the bridge. A variable resistor is included in the diagonal of the bridge. The variable resistor is connected with the control grid of the generator. To provide remote verification of the working order of the metal locator, a coil is located in the contour coil of the generator. This coil is locked to the resistor by a switch.

SUB CODE: 09, 11 / SUBM DATE: 30May64

Card 1/1 UDC: 621.389:550.83

SOV/136-59-2-7/24

AUTHORS: Diomidovskiy, D.A., Shalygin, L.M., Gal'nbek, A.A. and Yuzhaninov, I.A.

TITLE: Continuous Converting of Mattes (Nepreryvnoye konvertirovaniye shteynov)

PERIODICAL: Tsvetnyye Metally, 1959, Nr 2, pp 27-34 (USSR)

ABSTRACT: The authors discuss some shortcomings of the present converter process, the chief of which is its discontinuity. They discuss the heat balance of the process in terms of the variation of the calorific value of the matte and minimal permissible blast utilisation with variation in its copper content (Fig 1 and 2 respectively). Preliminary tests showed that blowing the matte in suspension was not effective and the authors concentrated on top blowing through water-cooled tuyeres of the matte flowing through a container (Fig 3). Work with cold hydraulic models and hot laboratory-scale installations was followed by tests on a 1-tonne (matte) hot installation at the Balkhashskiy Medeplavil'nyy Zavod (Balkhash Copper-smelting Works). This (Fig 4) consisted of a cylindrical horizontal

Continuous Converting of Mattes

furnace rotatable about a vertical axis. The furnace was lined with chrome-magnesite brick with heat insulation and had a welded iron shell. The matte entered at one end where the tuyere was located and flux was added, while the slag left at the other end. A type ZIF-51 compressor (rated at 200 nm^3/hr at up to 6 atm gauge) and oxygen cylinders provided the blast. Facilities for temperature, gas-composition and flow measurements were provided. Observations of the interaction between the blast, matte, slag and lumps of flux (Fig 5) showed that a tuyere inclination was an important factor. Fig 6 shows the degree of utilisation of oxygen (%) as a function of tuyere inclination (degrees) for heights of tuyere nose above the surfaces of 150 to 200 mm (curve 1) and 250 to 300 mm (curve 2). Optimal conditions for air blowing were established as 70 to 80° tuyere inclination, 4 to 5 atm gauge blast pressure, 300 to 350 mm tuyere-nose height above bath. The results (table 1) showed that the tuyere height above the bath could be increased without reducing oxygen utilisation by oxygen-enrichment of the blast. Chemical

Continuous Converting of Mattes

compositions of products obtained under the above optimal condition with air blast (tables 2 and 3) were 0.37 to 1.64 and 23.58 to 28.80% Cu and SiO_2, respectively in slag and 72.66 to 78.49 and 98.52 to 99.60% Cu in white matte and crude copper respectively. The authors outline one of their proposed continuous-converter processes (the converter is shown in Fig 7) put forward on the basis of their experimental results. They propose a blast pressure of at least 6 to 10 atm gauge and suggest that because of its high concentration the SO_2 in the converter waste gas could be utilised. They consider the process particularly attractive with blast oxygenation and applicable to various materials e.g. ferronickel. There are 7 figures, 3 tables and 2 Soviet references.

ASSOCIATION: Leningradskiy Gornyy Institut (Leningrad Mining Institute)

Card 3/3

SHALYGIN, L.M.; MEYYEROVICH, V.B.

Ways of accelerating the work of nonferrous metal converters. TSvet. met. 33 no.7:16-19 Jl '60. (MIRA 13:7)

1. Leningradskiy gornyy institut (for Shalygin). 2. Belkhashskiy gorno-metallurgicheskiy kombinat (for Meyyerovich).
(Nonferrous metals--Metallurgy) (Converters)

DIOMIDOVSKIY, Dmitriy Aleksandrovich, prof., doktor tekhn. nauk; SHALYGIN, Len Mikhaylovich, dots.; GAL'NBEK, Arnol'd Andreyevich, inzh.; YUZHANINOV, Igor' Aleksandrovich, kand. tekhn. nauk; MIKHAYLENKO, A.Ya., dots., kand. tekhn. nauk, retsenzent [deceased]; ARKHANGEL'SKAYA, M.S., red. izd-va; KARASEV, A.I., tekhn. red.

[Calculation of pyrometallurgical processes and furnaces for nonferrous metallurgy]Raschety piroprotsessov i pechei tsvetnoi metallurgii. Pod nauchnoi red. D.A.Diomidovskogo. Moskva, Metallurgizdat, 1963. 459 p. (MIRA 16:3)
(Nonferrous metals—Metallurgy)

SHALYGIN, L.M.; DIOMIDOVSKIY, D.A.

Investigating the nickel matte converter process with top blowing and a continuous overflow of slag. TSvet. met. 36 no.8:20-30 Ag '63. (MIRA 16:9)

(Nickel--Metallurgy) (Converters)

SHALYGIN, Len Mikhaylovich

[Converter process in nonferrous metallurgy] Konverternyi peredel v tsvetnoi metallurgii. Moskva, Metallurgiia, 1965. 159 p. (MIRA 18:4)

SHALYGIN, M. I.

USSR/Engineering
Machines, Milling
Machinery - Construction

Feb 1948

"Use of Magnetic Slabs for Strengthening Parts Being Finished on a Milling Machine," M. I. Shalygin, 1 p

"Stanki i Instrument" No 2

Magnetic slabs have been used with lathes and planers in the USSR and foreign countries. Describes first use of such slabs for reinforcing of parts being worked on milling machine.

76T36

SHALYGIN, M.I., kand. tekhn. nauk, dots.

"Technology of the machine construction" by D.P.Maslov, V.V. Danilevskii, V.V.Sasov. Reviewed by M.I.Shalygin. Vest. mash. 38 no. 8:86-87 Ag '58. (MIRA 11:8)

(Mechanical engineering)
(Maslov, D.P.)
(Danilevskii, V.V.)
(Sasov, V.V.)

SHALYGIN, S.

At the Exhibition of Achievements of the Soviet National Economy. (MIRA 14:7)
Tekh.v sel'khoz. 21 no.8:60-63 Ag '61.
(Moscow--Agricultural exhibitions)
(Agricultural machinery--Exhibitions)

ZEL'VENSKIY, Ya.D.; SHALYGIN, V.A.

Measurement of the activity of liquids labeled with mild emission. Zhur.fiz.khim.29 no.9:1706-1710 S '55.(MLRA 9:4)

1.Khimiko-tekhnologicheskiy institut imeni D.I.Mendeleyeva, Moskva.
(Liquids) (Radioactive tracers)

Testing rectification columns by using dilute solutions. An application of the radioactive tracer technique. Ya. D. Zel'venskii and V. A. Shalygin. *Neftyanoe Khoz.* 33, No. 8, 65–74(1955). A lab. rectification column was tested by using a dil. thiophene in benzene soln., with a colorimetric method of analysis (with isatin in H_2SO_4) of the distillate at the different levels. The original concns. and reflux ratios were varied over a wide range. The results were compared with those obtained with benzene-dichloroethane and CCl_4-benzene solns. The benzene-thiophene soln. was found to be well suited for the tests, the results being very slightly affected by the original concn. Computations are simple, and the accuracy is high. A method of thiophene production, contg. a tagged S^{35} atom, is described. A general method for using radioactive tracers for distn. process studies was developed, and the results obtained were found to compare favorably with the results obtained colorimetrically.

W. M. Sternberg

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CHINA/Processes and Equipment for Chemical Industries -
Processes and Apparatus for Chemical Technology

Abs Jour : Referat Zhur - Khimiya, No 9, 1957, 33263

Author : Zel'venskiy, Ya.D., Shalygin, V.A.

Inst :

Title : Testing of Rectification Columns with Dilute Solution.
Use of the Method of Radioactive Tracers.

Orig Pub : Khuasyue shitsze, 1956, No 10, 530-533, 534.

Abstract : A translation, see RZhKhim, 1956, 21435.

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AUTHORS: Zel'venskiy, Ya. D., Shalygin, V. A. SOV/156 58-1-11/46

TITLE: The Isotopic Exchange Between Sulfur and Carbon Disulfide as Well as Between Sulfur and Carbon Sulfoxide (Izotopnyy obmen mezhdu seroy i serouglerodom i mezhdu seroy i serookis'yu ugleroda)

PERIODICAL: Nauchnyye doklady vysshey shkoly, Khimiya i khimicheskaya tekhnologiya. 1958, Nr 1, pp. 40-45 (USSR)

ABSTRACT: V. M. Nikolayeva assisted in the experiments. The subject mentioned in the title is theoretically interesting in connection with the explanation of the mobility of sulfur in the mentioned compounds. Practically it is important for the creation of a method capable of high production of labelled carbon disulfide and carbon sulfoxide. At the beginning the authors give a short survey of publications (Refs 1 - 3). They carried out the isotopic exchange by heating of a solution of labelled sulfur in carbon disulfide.

In the Ist experimental series the concentration of the elementary sulfur in the solution remained constant

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investigated at 182, 217, and 257°. Figure 1 shows the results. At 257° within 30 - 60 minutes the exchange reached the maximum value which deviated a little from 100% (in consequence of the impure sulfur, as is assumed). As is known, the course of the reaction of the isotopic exchange with time is expressed by the kinetic solution of first order independently of the mechanism and of the real order of the reaction (Ref 5).

$\ln\left(1 - \frac{x}{x_\infty}\right) = -k't$, (1), t = the duration of the exchange; k' denotes the apparent velocity constant, x the activity of the sample at the time t, x_∞ the activity of the sample in the case of a complete exchange, i. e. in the case of a uniform distribution of the isotope. The constructed diagrams of the dependence $\log\left(1 - \frac{x}{x_\infty}\right)$ on time showed that the experimental results are placed satisfactorily on a straight line for each of the investigated temperatures according to equation (1). From this the values of the

apparent velocity constant of the exchange reaction could be calculated (Table 1). From the data of table 1 the activation energy of the exchange reaction between carbon disulfide and elementary sulfur was determined (at 257°, duration of one hour). Figure 2 gives data at various sulfur concentrations. They show that the effectiveness of the exchange is reduced with rising concentration of the elementary sulfur in the case of equal conditions. The connection between the true (k) and the apparent velocity constant (k') is expressed by equation (2). After various calculations the authors found that for the isotopic exchange of sulfur in the system sulfur - carbon disulfide the real order of the reaction (with respect to sulfur) is equal to zero. This explains the inversely proportional relation between the exchange degree and the sulfur concentration. IInd experimental series. In order to accelerate the reaction between sulfur and carbon sulfoxide, the experiments were carried out in benzene, toluene, and absolute ethyl alcohol as solvent. Table 2 gives the results.

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Ethanol turned out to be the most effective solvent. Fig 4 gives the results concerning the exchange at 217 and 257°. Within 2- 3 hours at 257° the exchange approaches towards a perfect one. This reaction has as well a zero order for sulfur. There are 4 figures, 2 tables, and 6 references, 5 of which are Soviet.

ASSOCIATION: Kafedra tekhnologii razdeleniya i primeneniya izotopov Moskovskogo khimiko-tekhnologicheskogo instituta im. D. I. Mendeleyeva (Chair of Technology of Separation and Use of Isotopes at the Moscow Institute of Chemical Technology imeni D.I. Mendeleyev)

SUBMITTED: October 10, 1957

AUTHOR: [illegible]

TITLE: Separation of Isotopes by Means of Rectification (Razdeleniye izotopov rektifikatsiyey) Methanol Rectification (Rektifikatsiya metanola)

SOURCE: Nauchnyye trudy vysshey shkoly. Khimiya i khimicheskaya tekhnologiya, 1958, No 1, pp. 388-391 (USSR)

ABSTRACT: Among the possible methods of separation of isotopes rectification is one of the most economical methods. For this reason its experimental investigation is of interest. In the investigations covered by the present paper methanol was rectified in the form of an isotope mixture. The change in the isotope composition was determined according to all methanol-forming elements O, C^{12}, and O^{13}, a certain amount of radioactive methanol was then added and separation was observed according to the isotope O^{18}. The rectification apparatus is shown in figure 1. The isotope concentration of O^{13} and O^{18} was determined by means of mass spectrometry. For this purpose the sample was

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first decomposed on zinc sulfide at 350° into a mixture of CO + H_2. From this mixture CO_2 was produced on an iron catalyst at 600° according to the Boudoir (Buduar)-reaction and analyzed in the mass spectrometer. The deuterium concentration was determined by means of the flotation method according to the density of the water formed as a result of methanol combustion. The water first was normalized to oxygen by means of isotope exchange with air on a manganese catalyst at 500 - 600° C. The C^{14}-concentration was determined directly by measuring the methanol activity according to a method already described (Ref 1). The results of the experiments are given on figure and 3. The obtained stationar, changes f concentration of the isotope methanol varieties are known on table 1. From these results the authors draw the conclusion that methanols, the components of which form heavy carbon isotopes are more volatile than the ordinary methanol. In this connection methanol containing C^{13} was more volatile than that with C^{12}, as was the case that was observed by the authors already earlier in the case of [illegible] which is more volatile than [illegible].

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The determinations of the changes of concentration at the time they reach the stationary state (Figs 2, 3) made possible the computation of the number of theoretical steps of separation (n_t). Furthermore the non-recurring coefficient of separation (α, Fenske equation, Ref 4) was computed. Among several solutions suggested the authors used that made by Babkov and Voronkov (Ref 5) as final solution. The thus obtained values of α and n_t are given on table 1. As could be expected the coefficient α for deuterium is highest. It is followed by C^{14} and C^{13}. There are 3 figures, 1 table, and 5 references, 2 of which are Soviet.

ASSOCIATION: Kafedra tekhnologii razdeleniya i primeneniya izotopov Moskovskogo khimiko-tekhnologicheskog **institut**a im. D. I. Mendeleyeva (Chair for the Separation and Use of Isotopes of the Moscow Chemical Technological Institute imeni D. I. Mendeleyev)

SOV/156-58-2-47/48

Separation of Isotopes by Means of Rectification. Methanol Rectification

SUBMITTED: October 2, 1957

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ZELVENSKIY, Ya.D.; KOLLEROV, D.K.; TYRSIN, A.A.; SHALYGIN, V.A.

Use of radioactive isotopes of sulfur to study the processes of the formation of corrosive substances in compressors and gas pipes. Gaz. prom. no.5:41-45 My '58. (MIRA 11:5)
(Sulfur--Isotopes) (Corrosion and anticorrosives)

GAZIYEV, G.A.; ZEL'VENSKIY, Ya.D.; SHALYGIN, V.A.

Liquid-vapor equilibriums in binary mixtures of ethyl alcohol - isopropyl alcohol and carbon bisulfide - methyl iodide. Zhur. prikl. khim. 31 no.8:1220-1227 Ag '58. (MIRA 11:10)
(Systems (Chemistry)) (Phase rule and equilibrium)

SHALYGIN, V. A., Candidate Chem Sci (diss) -- "The use of the method of tagged atoms in investigating rectification processes". Moscow, 1959. 11 pp (Min Higher Educ USSR, Moscow Order of Lenin Chem-Tech Inst im D. I. Mendeleyev, Chair of the Tech of Separating and Using Isotopes), 150 copies (KL, No 25, 1959, 128)

ZEL'VENSKIY, Ya.D.; SHALYGIN, V.A.; BANTYSH, A.N.

Preparation of organic compounds, tagged with radioactive isotopes of sulfur and chlorine, using isotopic exchange. Radiokhimiia 1 no.6:683-686 '59. (MIRA 13:4)
(Sulfur--Isotopes) (Chlorine--Isotopes)
(Organic compounds)

SHALYGIN, V.A.

Simplified analytical method of calculating the number of theoretical separation stages for the rectification of binary mixtures. Izv.vys.ucheb.zav.; khim.i khim tekh. 3 no.1:208-210 '60. (MIRA 13:6)

1. Kafedra tekhnologii razdeleniya i primeneniya izotopov. Moskovskogo khimiko-tekhnologicheskogo instituta imeni D.I. Mendeleyeva.
(Distillation, Fractional)

ZEL'VENSKIY, Ya.D.; SHALYGIN, V.A.

Effect of the size of the selected distillate on the degree of separation in a rectification column. Khim.i tekh.topl.i masel 5 no.7:19-24 Jl '60. (MIRA 13:7)

1. Moskovskiy khimiko-tekhnologicheskiy institut im. D.I.Mendeleyeva.
(Distillation, Fractional)
(Petroleum--Refining)

S/064/62/000/005/001/002
B144/B136

AUTHORS: Gel'fenskiy, Ya. D., Shalygin, V. A., Golubkov, Yu. V.

TITLE: Removal of phosphorus trichloride impurities from silicon chloride

PERIODICAL: Khimicheskaya promyshlennost', no. 5, 1962, 41-46

TEXT: $SiCl_4$ was purified of PCl_3 by (I) rectification; (II) adsorption. This is the first time that the liquid-vapor equilibrium has been determined with PCl_3 concentrations from 0.001 to 0.205 % by weight at 300-760 mm Hg. To avoid analytical difficulties due to the low PCl_3 concentrations, P^{32} was used. The temperature dependence of the separation coefficient α is not important and can be expressed by $\log \alpha = 79.245/T - 0.015$. Rectification in vacuo has no special advantage over that under atmospheric pressure. α is not influenced by additions of 0.0125-0.324 % by weight of $(C_6H_5)_3CCl$, which is used to purify $SiCl_4$ from BCl_3. Since the solution in question obeys Henry's law, the number of theoretical plates in

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Removal of phosphorus...

above. The adsorption rate was independent of external diffusion, but apparently dependent on internal diffusion, since the saturation of the adsorbent increases with decreasing granulation. There are 7 figures and 4 tables.

Fig. 4. Isotherms of PCl_3 adsorption from $SiCl_4$ solution in the range of small PCl_3 concentrations.

Legend: 1,2,3,4,5 see text; (a) adsorption capacity, $A \cdot 10^2$, mmole/g; (b) PCl_3 concentration, $C \cdot 10^2$, % by weight

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ZEL'VENSKIY, Ya.D. (Moscow); FEYTEK, Ya. (Moscow); SHALYGIN, V.A. (Moscow)

Differential method of simple distillation for investigating liquid - vapor equilibrium. Zhur.fiz.khim. 35 no.12:2802-2806 D '61. (MIRA 14:12)

1. Moskovskiy khimiko-tekhnologicheskiy institut imeni Mendeleyeva.
(Phase rule and equilibrium)
(Distillation)